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ORGANISATION OF STATISTICAL SERVICES

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NOTES

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ORGANISATION OF STATISTICAL SERVICES

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During the last fifteen years many countries have developed to the point of being able to justify a Department of Statistics. The need for this change and the ability to pay for it out of increasing government revenues in the post-war years was self-evident in the larger countries although the size and scope of the Department was, of course, a matter on which there was considerable variation of opinion. Equally obvious was the inability of a number of very small administrations to justify a specialised statistical service. Between these two extremes were a number of countries or territories of small to medium size (whether judged by population or government revenue or by a more complicated indicator) for which the judging of the correct timing of a change to a statistical service organised as such was by no means an easy task. A keen person in a key position wanting the service could easily tip the balance in favour of a decision that the time had come to start to organise one; it was also quite possible for a dominant personality elsewhere to argue that the money would be better spent on expanding education or health services or on another new specialised service regarded as of higher priority.

2. Occasionally a first step forward could be taken by setting up a Statistical Bureau, as distinct from a Department of Statistics, leaving the statistical work done in the other departments with them although co-ordinated by the Bureau. At the same time, the Bureau undertook general functions like the preparation of capital formation, balance of payments and national income estimates. When it was impossible to justify a full Department of Statistics from the beginning, this compromise had considerable advantages.

3. Little can be said about statistical work in the very small countries. Visiting experts can undertake ad hoc studies and overseas trade statistics, for example, can be produced in a Customs Department. This is usually done in a section staffed by clerical officers having a loose link with the Director of the Department who sometimes takes almost no interest in their work. One keen man, often undergraded, may produce good quality work even in these circumstances but these favourable conditions do not last for long because of promotions and other staff changes.

4. At the other extreme, some of the problems discussed in the following paragraphs are scarcely applicable to the very large countries.

Moreover the special problems arising in these conditions have not been considered since they are largely outside my own experience.

5. A full discussion of "the principal problems relating to the organisation and operation of a national statistical service" took place at the International Seminar on Statistical Organisation sponsored by the United Nations with the co-operation of the Government of Canada and held in Ottawa in 1952. The report of this seminar (U.N. Statistical Papers, series M, No.16, referred to subsequently as M.16) is still a live document since it deals with problems that are not easy to solve and tend to recur in somewhat different forms when an apparent solution has been found. There were many representatives of the less developed countries at the Seminar but the report does not place a special emphasis on their experience. As countries move forward, however, most of the problems discussed in 1952 have an increasing relevance.

6. The conclusions (pages 4 and 5 of M.16) contain a good definition of the functions of a national statistical system which can be summarised as:

(a) to collect, process and publish regularly, with adequate appraisal and annotation, a set of integrated statistics necessary for an understanding of the economic and social structure of a nation;

(b) the development and application of statistical standards for the collection, processing and publication of statistics;

(c) to conduct research in statistical methods and operations; and

(d) to facilitate the education and training of statistical personnel of all grades.

7. Other sections of the conclusions in the Seminar report dealing with "statistical organisation" and the "nature and scope of national statistical programmes" are inevitably worded in general terms and they stress that much depends on the circumstances (needs, political structure, traditions and resources) of each country. The great value of the report, of course, is to be found in the abstracts of the papers and the record of the discussions. Throughout the remainder of this paper the uniqueness of the situation in each country will also never be far from the surface.

8. Since the countries we are considering are all endeavouring to develop at a rapid pace requirements are related to their need "for an understanding of the economic and social structure" which is very great indeed. Without it, they are not able to provide the basic information that is a pre-requisite of obtaining external financial aid. At a later stage, a lack of full understanding brings many uncertainties into development planning and handicaps judgments on the rate of growth at which to aim.

9. This situation is reflected in the place that is given to statistical services in the machinery of government, a common arrangement at the

present time being for a Statistics Department to be part of the Ministry that is concerned with economic development and for it to be linked closely with the organisation that has responsibility for development planning. It is important to find the best way of applying the principle that priorities for statistical work should be settled in relation to the needs of the country as a whole and not distorted because the service has a link with a Ministry with a partial sphere of interest. It is rarely possible, of course, to find a way that is beyond criticism and a close link with development planning may mean that social statistics (those dealing with health, for example) are not given sufficient priority when a Statistics Department is part of a "Ministry of Economic Development". I also sometimes wonder whether enough attention is given in these circumstances to some work at least on the trends shown by the indicators used to throw light on levels of living.

10. A Statistics Department has a special role to play in the relationship between Ministers and Civil Servants in the course of which policies are framed as a balance between short-run and long-run considerations. The chances of finding the right solution are enhanced enormously if there is a flow of information on the state of a country's economy and if the achievements of policies decided in the past can be shown in a clear and unambiguous way. The likely direct effect of proposed measures, their indirect advantages and disadvantages and the number of people affected by them can all be demonstrated most effectively by statistical analyses if adequate data is available. Analyses of this kind have a great effect on the quality of the policy discussions. May I add here that I have always seen something essentially democratic about Yearbooks and Digests of Statistics. Basic facts about the economic and social systems are made available to all who want them with an implied promise that they will be produced regularly whether or not they show favourable trends. The statistics can be explained and justified in other places but in the main statistical publications they are issued in a neutral fashion.

11. The usual situation is that a Director of Statistics lives in a world of scarce resources in relation to the programme of work he would like to adopt after taking full account of the priorities that have been settled. He is thus faced with a never ending task of making the best use of the limited means at his disposal. Economical planning is many sided and one of great importance is the setting of the appropriate standards mentioned in paragraph 6 (b). The Director and his senior staff need to be in touch with current views on methods and techniques and, in most circumstances, they have to adopt or develop those that are simple and direct, e.g. no "fancy" index numbers or attempts at elaborate input-output studies. In this sphere nothing is more important than a sound knowledge of sampling theory and skill in solving the practical problems that arise whenever sampling is used.

12. It is never easy for a man who does not know a country well and is not closely in touch with civil service traditions to start a statistical service. Once a department has been established, however, it is a great advantage that a shortage of qualified Statisticians, a lack of certain specialised statistical skills or weakness on some organisational questions can be off-set by bringing in experts under one of the many forms of technical assistance that are available to

the less developed countries. Technical assistance frequently gives an opportunity of undertaking new projects (e.g., the first industrial production census) that can be absorbed into the normal programme of the work of the department when they have passed through the difficult initial stages that absorb so much of the time of senior and professionally trained staff. Special training programmes - again available through various technical assistance schemes - are also a fundamental aspect of making the most of limited staff. In particular the time of Statisticians can be made much more effective if middle-grade staff can be given adequate training.

13. A Department of Statistics can be a large organisation but the spearhead is a relatively small number of senior and professionally qualified staff. It is not easy to define Statisticians and, in practice, many of them have come into their work as either "applied" mathematicians or "applied" economists. The number who are both, or are econometricians or whose university education has covered all the special features of a Statistician's outlook and skill is not great. This is moving towards a subject on which there could be considerable controversy and I note that it was avoided at the Seminar in 1952. My own solution is to direct attention away from the question of all-roundness in the outlook and skill of individual Statisticians and to stress the need for a well-balanced department. Something similar to this view must have been expressed at the Seminar because one of the summaries of the discussions (M.16, page 122) contains a statement that "a statistical agency requires personnel with various attributes". For some aspects of the work of the department "applied" economists are admirable; for others, "applied" mathematicians are essential; and for some work nothing is better than the two types teamed up together. Furthermore, the economist types should be encouraged to improve their initial limited knowledge of the theory of statistics by departmental discussions, by working through the standard text-books and, if possible, by attending training courses or university seminars. Equally, the mathematical types (possibly through national income studies) should be encouraged in the same way to know what goes into the training of an economist, and they too, should have the advantage of special training courses or seminars, if suitable ones can be found. After Statisticians have been in the Department for a few years, the various approaches to statistical work should begin to be less distinctive and at the administrative level in the department, if the top posts are filled by the promotion of long serving officers, should cease to be relevant.

14. A fundamental question is "how centralised should a statistical organisation be?" If there are three or five or even seven qualified Statisticians in a country, there is everything to be said for their working together as a single team in a Statistics Department. This follows from the principle in paragraph (9) i.e., that priorities for statistical work should be settled by taking account of the country's needs as a whole. A whole unit of Statistician's time allocated to a particular Ministry or Department when the total number of Statisticians in a country is small is most unlikely to express true priorities. In practice, of course, certain Departments press hard for their statistical work to be handled by a qualified Statistician and any allocation of whole units reflects the relative keenness of Departmental Heads rather than a proper assessment of priorities. A further reason for a central organisation for a small team of qualified Statisticians follows from paragraph (13). The team as a whole may be well balanced but individual members of it may not all have the qualities that are needed for all aspects of statistical work in a limited field of application. Centralisation is thus essential in the early years (and much longer in a small country) but when the number of

Statisticians has expanded and priorities can be expressed reasonably well by the allocation of whole units there may well be much to be said for the organisation of statistical units in the larger Ministries or Departments such as those handling Agriculture, Labour or Education. The Statisticians will be far closer to their colleagues and they should be able to give more help in policy discussions if they are part of Ministerial or Departmental teams. In a paper prepared by an official of the U.N. Statistical Office for the 1952 Seminar (M.16, pages 12-14) it was recorded that "Statistical systems with a major operating office and with central control or co-ordination" of other national statistical units are "perhaps the type ..... most common amongst the sytems existing at present in the countries of the world". In these circumstances, however, arrangements are necessary so that Statisticians who are working away from the centre can be moved from time to time from one post to another and kept in line for promotion to the higher posts which are likely to be found only at the centre. There are also dangers in any Civil Service of "the break-up of Statisticians into isolated groupings" (summary of discussions, M.16, page 43). How these arrangements are to be made or the dangers avoided must depend largely on the way the Civil Service in any country is organised.

15. Out of the many problems, within my experience, facing a Director of Statistics in a less developed country I have selected four which I am describing in the following sub-paragraphs.

(a) So much of the information that is needed for policy purposes in the circumstances we are considering is best gathered or can be gathered only by sample surveys, usually with households as the sampling unit. An ad hoc survey requires the use of a considerable quantity of high level time in a Statistics Department and a large amount of effort has to be expended on finding suitable supervisors and enumerators for the period of the survey. The costs per "unit of survey information" fall if a survey organisation can be kept continuously in existence even if it has to be expanded by temporary labour for certain larger surveys. Moreover, the quality of the information collected improves considerably if supervisors and enumerators gain experience through a run of surveys. On the other hand, it is far easier to obtain a budgetary allocation for ad hoc surveys with a specific purpose, e.g. a household expenditure survey designed primarily for a revised retail price index. Even when funds have been obtained for a survey team to remain continuously in existence they are at risk for some time; a Treasury official may well be able to make play of the fact that the collection of data may have run ahead of the ability of the central unit to digest and use it or that, with some gaps in the programme of agreed surveys, the Statistics Department has used its team occasionally for low priority or experimental work. Moreover, Treasury officials may be shocked by a decision that it would be better not to use the team for the collection of data on agricultural production if experienced Agricultural Department staff can be found to undertake the field work. Obtaining and maintaining a continuous survey team is one of the critical stages in the development of statistical services in larger countries.

(b) There are great advantages in a Statistics Department controlling large-scale operations like a population census but there is a danger that other work will be swamped and essential developments in other fields deferred. The situation may be eased, especially at the processing stages, by obtaining outside help in the form of technical assistance. Largeness, however, in the case of a population census, arises from the amount of detail to be collected and the skills involved are mainly administrative once the scope of the census has been settled and the analysis planned. Hence the spearhead of a relatively small

Statistics Department can be enlarged for a temporary period by non-Statisticians, essentially organisers who know the country well and can make full use of their experience of local administration. Good men of this type are scarce but frequently not as scarce as qualified Statisticians.

(c) When capital formation or balance of payments estimates or a full set of simplified national accounts are first prepared they contain an uncomfortably large number of decidedly shaky items for which adequate information is not available. The natural tendency of all Statisticians in these circumstances is to give estimates of this kind a very restricted circulation. Future troubles are seen only too clearly e.g. a probable over-estimate of the gross domestic product issued now could result in an uncomfortably low rate of growth when it is compared with estimates for later years that are based on much firmer data. Natural caution of this kind has to be tempered with a realisation that many estimates that are far from satisfactory are nevertheless of use for certain purposes. The Director of Statistics must be able to make the users of the data realise that new information that improves current estimates may involve revisions (perhaps rather large revisions) of estimates already in circulation for earlier years. In view of the uses that may have been made of national income aggregates or some parts of the estimates by people who do not realise how large a margin of uncertainty should be attached to them, this action can sometimes result in a flood of criticism of the Director of Statistics. This risk is probably unavoidable and there can be no justification in trying to avoid it by excessive caution.

(d) It may happen that a Department of Statistics is not striking the right balance between (i) collecting and analysing primary data and (ii) playing a part in the use and interpretation of this data for government policy. The latter often involves the drafting of papers and attending inter-departmental meetings as well as engaging in the exchange of views and critical discussions that are so important in the life of higher civil servants. Statisticians can play a useful part in this way and those with a wide outlook want to do so. On the other hand, it is time consuming and too much of it inhibits the development of primary data which, in itself, is the basis of the help that Statisticians can give in policy making. At the other end of the scale, some Statistics Departments find themselves in a position in which they do little more than collect primary data and write rather general reports. They may be questioned about the scope or reliability of their figures but they are not asked to interpret them in the full sense nor to play any part in the policy making discussions. Such a situation can be frustrating for a Statistician with a wide outlook and can lead to young Statisticians doing all they possibly can to move to work that is entirely on the policy making and administrative side. The best way of striking the balance between these two forms of activity must be a matter of judgment and one that has to be exercised continuously as a programme of work is evolved. Lack of balance in either direction is never likely to be a situation that can be corrected quickly. Some adjustments, in fact, are not possible until there are staff or posting changes that make it possible for new relationships to be worked out.

16. However well a Director of Statistics solves the problems I have selected and many others too, and however well he is supported by qualified, middle-rank and clerical staff he is bound, at times, to feel that there is so much needing, yet not receiving, attention. He should, however, not be depressed for long if his department is moving forward well and has a record of new achievements year by year. A good and well balanced statistical service cannot be created quickly.

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